

COMPOSITION AND METHOD FOR 3-DIMENSIONAL
MAPPING OR RADIATION DOSE

Abstract

In accordance with this invention, there is provided a method of imaging, measuring and displaying a 3-dimensional dose distribution of an energy field in a translucent 3-dimensional object comprises: applying an energy field to the object such that the optical properties are changed upon receipt of the energy; optically scanning the object at various positions and angles to provide a series of 2-dimensional representations of the object; detecting the measuring light projection data indicative of optical changes in the object; calibrating the optical change in the object to the dose of the energy corresponding to each position scan; mapping the dose of the energy in the object and visually recording the summation of said 2-dimensional representations on an image display receiver comprising a radiation activated metal salt of a crystalline, thermochromic polyacetylene having a conjugated structure uniformly distributed in a rigid or high density semi-solid matrix by a color alteration due to polymerization of the activated polyacetylene to provide a permanent, 3-dimensional image of the object in high spatial resolution. The invention further provides image display receivers and radiation sensitive materials.